REMARKS

Attorney for applicant encloses a revised set of proposed claims, including amendments that obviate the rejections advanced by the Examiner. The proposed claims are fully supported by the specification and drawings, and no "new matter" is introduced.

Claims 12, 15-17, 19, 22, 23, 28, 30, 31 and 34 are presented for consideration on their merits. Claim 34 is a new method claim, dependent upon claim 22. However, claims 11, 13, 14, 18, 20, 21, 24-27, 32 and 33 have been cancelled, so the number of claims presented for consideration has been materially reduced.

In particular, the independent apparatus claim 11 has been cancelled, while the remaining independent apparatus claims 23, 30 and 31 have been amended to stress that the apparatus includes a pair of spaced apart ultrasonic transducers which are angled towards each other. Further the ultrasonic transducers have been defined in claims 23 and 30 to call for an applicator assembly having a transducer support which has a concave side and spaced apart free ends. This configuration facilitates placement of the applicator assembly in contact with the neck of a person and at any position around the neck.

Method claim 22 has also been amended to further clarify the form of the ultrasonic apparatus used in the method. New method claim 33 stresses that the ultrasonic signals are applied at spaced apart positions to the neck by spaced apart ultrasonic transducers which are angled to each other.

Initial clinical trials have indicated while a single transducer is effective in exciting the cilia in the pharynx to produce a reflex cough, a pair of transducers, positioned at spaced apart positions around the neck, provide a substantially improved performance. This is due to the fact that when a pair of transducers

are used resulting in ultrasonic vibrations being applied to spaced regions of the neck, the vibrations from the transducers intersect in the region of the cilia at the level of the oro-pharynx, thereby producing a substantially greater cough response than does a single transducer.

While, in general, the prior art shows that ultrasonic apparatus using ultrasonic transducers are used for certain treatments of the body, none of the documents cited show that ultrasonic vibrations have ever been used to stimulate a coughing response nor contemplate the use of ultrasonic vibrations for this purpose (emphasis added). It is submitted therefore that the applicant is entitled to method claim 22 relating to a method of producing a coughing response by application of ultrasonic vibrations to the neck.

With regard specifically to the Examiner's rejections based on the prior art, the following comments are provided to emphasize the deficiencies of the prior art patents.

Young U.S. Patent No. 5,549,544

Claim 11 objected to by the Examiner on the basis of anticipation or obviousness by Young has been cancelled, rendering the matter moot. The rejected method claim 22 has been amended as referred to above. The previously rejected apparatus claim 23 has been amended to define that the support for the transducers is of a concave configuration on one side and that the support carries a pair of spaced apart ultrasonic transducers which are angled towards each other. The support has been further defined to have spaced apart free ends which facilitate placement of the support about the neck so as to mate with the neck.

Young discloses apparatus for therapeutic treatment by the application of ultrasonic vibrations to part of the body to be treated. The device of Young is primarily aimed at treating injuries such as ankle sprains, knee pain, lower back pain, neck and wrist sprains and muscle spasms (column 2, lines 40-43). Young uses a single transducer applied to part of the body to be treated. Young does not disclose a method of inducing a reflexive coughing response by the application of ultrasonic vibrations to the neck. Young further does not disclose the use of a pair of spaced apart transducers nor does Young disclose the use of a transducer support which is of a concave configuration on one side which supports the spaced apart transducers. The use of a support of concave configuration facilitates positioning of the support on the neck with the concave side mating with the neck.

Young refers to a preferred ultrasonic frequency in the range of 20 to 120 kHz (column 2, line 5 and claim 1) with the preferred frequency being in the range of 40kHz (claim 3). Tests to date by the current inventor have indicated that this frequency is too low to excite the cilia and cause a coughing reflex. Even if one attempted to apply the Young apparatus to the neck to induce a reflexive coughing response, it is unlikely that a coughing response would result.

Thus, Young does not disclose the structural features and operational advantages realized by amended apparatus claim 23. Young also does not disclose a method of inducing a reflexive coughing response using a single transducer or a pair of spaced apart transducers as claimed in claim 34. It is submitted therefore that Young does not anticipate the invention as recited in amended claims 22 and 23, or in new claim 34.

Castel U.S. Patent No. 5,086,788

Claim 12, rejected by the Examiner on the basis of a combination of Young and Castel, has been amended to be now dependent upon claim 23, which, as referred to above, has been amended itself. Claims 31 rejected by the Examiner has been amended to define apparatus which includes an applicator assembly having a pair of spaced apart ultrasonic transducers which are angled to each other and which can be placed in contact with the neck such that ultrasonic vibrations can penetrate the neck at spaced apart regions of the neck. Claim 32 has been cancelled.

Castel discloses a hand-held physiological stimulation applicator for application of ultrasonic signals for treatment of tissues. Castel used a single transducer and not spaced apart transducers as now claimed in independent claims 23 and 31, and claim 12, which is appended to claim 23. It appears that the frequencies used in Castle are between 1MHz and 3Mhz (Fig. 5). These frequencies, as the current inventor has established by testing, are too high to effectively stimulate a cough. Castel also does not disclose a method of inducing a reflexive coughing response as defined in claims 22 and 33. Even if one attempted to apply the Castel apparatus to the neck to induce a reflexive coughing response, a coughing response would not result.

Claim 32 defining the first and second power modes of the apparatus has been cancelled.

Erikson U.S. Patent No. 5,269,747

Claims 13-21, 23-27 have been rejected by the Examiner on the basis of a combination of Young, Castle and Erikson.

Claims 13, 14, 18, 20, 21 and 27 have been cancelled. Claims 15 to 17 and 19 have been amended to be dependent upon claim 23, which has been amended to define, as above, that the support for the transducers is of a concave configuration on one side and that the support carries a pair of spaced apart ultrasonic transducers angled towards each other. The support has been further defined to have spaced apart free ends which facilitate placement of the support about the neck so as to mate with the neck.

The Erikson device has double transducers for application of electromagnetic fields to the body for stimulation of a target area of the skeletal system of the body (see column 1, lines 15-18) using pulsed electromagnetic field therapy. The present invention, as claimed, is not concerned with therapy of the spine or skeletal system.

Erikson uses front and back transducers which are anatomically contoured for application to the front and back of the body (column 1, lines 66-18). The transducers are incorporated in a belt that permits the transducers to be placed around a patient and secured in front and back of the patient (line 29-31, column 2) for application to a target area of the skeletal system. Specifically the Erikson device as defined in the claims is designed for electromagnetic field therapy of the spine of a patient's body.

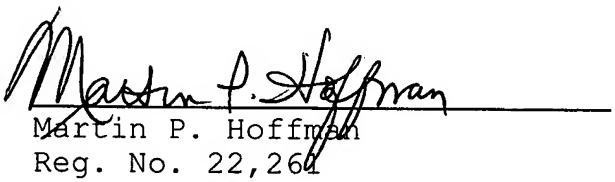
There is no teaching in Erikson of application to the neck of a person. The nature of the construction described in the Erikson embodiment is such that it would be unsuitable for application to the neck. Erikson does not have a main body or a gripping handle to which an applicator assembly is mounted with transducers arranged symmetrically on opposite sides of the main body (gripping handle) as defined in amended claims 23.

The transducers of Erikson are wound coils which are quite different in function and principle to the ultrasonic transducer of Young where ultrasonic vibrations are applied to very localised parts of the body and the transducer of Castel where high frequency vibrations are applied through the transducer to localised parts of the body. Both Castel and Young therefore use a different principle of operation and therapeutic method from that of Erikson which is concerned with applying electromagnetic fields to the body in a sub-ultrasonic range. Further Young and Castel are both concerned with applying ultrasonic signals to the soft tissues of the body and not to the skeletal system of the body.

Thus, the disclosures of Castel and Young would not be obviously combined with the disclosure of Erikson to produce the present invention as now claimed. In addition, even if the disclosures were combined, it is difficult to see that the present invention, as now claimed, would result. Both the Castel and Young devices are hand held devices having a gripping handle to manipulate the device. Erikson uses a belt which is not hand held but applied about the body. Both Castel and Young and the apparatus of the present invention allow hand manipulation to achieve desirable results. In Erikson, the belt is applied to the body and no easy physical manipulation can occur. The only variation allowed in Erikson is in the signal applied to the transducers.

In view of the foregoing analysis, the instant Amendment should be entered into the record, to advance prosecution toward allowance and/or place the application in condition for appeal. Prompt, and favorable, consideration of the (proposed) Amendment, filed within two months of the final Rejection, is clearly in order.

Respectfully submitted,



Martin P. Hoffman
Reg. No. 22,264

December 17, 2007

HOFFMAN, WASSON & GITLER, P.C.
2461 South Clark Street
Suite 522
Arlington, VA 22202
(703) 415-0100

Customer No.: **20741**

Attorney's Docket: A-9547.AMB/bh